EXHIBIT 13

Multidetector CT Enterography in Children and Adolescents with Low Attenuation Oral Contrast

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Purpose: To present initial experience with multidetector CT enterography (CTE) in children and adolescents using low attenuation oral contrast, including administration protocol, scanning technique, and findings.

Methods and Materials: Retrospective review of institutional records yielded 19 attempted CTE exams performed on 18 patients with VoLumen (E-Z-EM, NY) in patients under age 18 years. VoLumen is a low attenuation oral contrast agent consisting of a mixture of barium sulfate (0.1% w/v) and sorbitol. All patients were instructed to drink 15 mL/kg of VoLumen, at a pace of 1 bottle (450 mL) per 20 minutes. Patients underwent IV contrast enhanced CTE on a 16 row multidetector CT immediately following prescribed oral contrast volume consumption. Transaxial and multiplanar reformatted images were reviewed.

Results: Low attenuation oral contrast CTE was successful in 16 exams on 15 patients. Two of the three exams deemed unsuccessful were in children under age 8, and one was in a patient with acute nausea. Positive findings included multiple cases and manifestations of inflammatory bowel disease, two unsuspected cases of cholelithiasis, and one unsuspected case of hepatic veno-occlusive disease.